

Inflorescences narrow, racemose, up to 60 cm long with 2-6 distant fascicles of branches. Branches compressed, scaberulous on the angles, each holding 1-3 spikelets. Spikelets oblong-lanceolate or lanceolate, greyish-brown or chestnut brown, 20-25 mm long, 3-6 mm wide. Glumes lanceolate, brownish yellow to chestnut brown, shining, 8-15 mm long (fertile ones up to 20 mm long), coriaceous, ciliate on the upper margins. Nuts trigonous, oblique, 2 angles convex and the other straight, 2.5-3.5 x 1.5-2.0 mm, brown, rugose.

Ecology: Occasional in open grassland, heaths; usually in wet places, growing in clumps

in association with *Sorghum nitidum* (Vahl) Pers., *Pachystoma senile* (Lindl.) Reichb. f., *Rhynchospora* sp. etc.

Specimen examined: Nicobar islands: Teressa Is., way to Enam from Minyuk, at ±2 km, 26.ii.1997, P.V. Sreekumar 16739 (PBL).

I am grateful to Dr. P. K. Hajra, Director, Botanical Survey of India, Calcutta for encouragement and facilities.

December 23, 1997

P.V. SREEKUMAR

Botanical Survey of India

Andaman-Nicobar Circle

Port Blair-2, Andaman Islands.

REFERENCES

- KARTHIKEYAN, S., S.K. JAIN, M.P. NAYAR & M. SANJAPPA (1989): *Florae Indicae Enumeratio: Monocotyledonae*: 70.
 KERN, J.H. (1974): Cyperaceae in *Fl. Malesiana 1(1)*: 435-753. Leyden.

41. ADDITIONS TO THE GRASSES OF GOA

The family Poaceae has attracted considerable attention due to its economic importance and diversity. However, the flora of Goa state has not been studied well due to its historical isolation, till 1961. The *FLORAS* published on Goa (Dalgado 1898, Vartak 1966, Rao 1985, 1986) are not complete. Many species reported by them were collected outside the state of Goa. Recently Kulkarni and Janarthanam (1995) added 10 species of Scrophulariaceae to the existing published accounts. We report 24 additional grass species from Goa.

The identity of specimens was confirmed at BLAT, BSI and MH. The specimens are deposited at the Department of Botany Herbarium, Goa University.

1. *Arthraxon lanceolatus* (Roxb.) Hochst. var. *meeboldii* (Stapf) Welzen in *Blumea* 27: 285. 1981; Lakshminarasimhan in *Sharma et al. Fl. Maharashtra Monocot.* 401. 1996. Found in open areas of forests. Exsiccata: Surla, Alt. 460 m, 8.xi.1996, 309.

2. *Chrysopogon lancearius* (Hook.f.) Haines, *Bot. Bih. Orissa* 1036. 1924; Lakshminarasimhan in *Sharma et al. Fl. Maharashtra Monocot.* 431. 1996. On open laterite plateaus. Exsiccata: Goa University campus, 23.x.1996, 348.

3. *Dicanthium filiculme* (Hook.f.) Jain and Deshpande in *Bull. Bot. Surv. India* 20: 134. (1978) 1979; Lakshminarasimhan in *Sharma et al. Fl. Maharashtra Monocot.* 454. 1996. Found on cut surfaces of rocks and hillocks. Exsiccata: Molem, 22.xi.1996, 413.

4. *Dimeria blatteri* Bor in *Kew Bull.* 1949: 70. 1949; Lakshminarasimhan in *Sharma et al., Fl. Maharashtra Monocot.* 467. 1996. Found along streams. Exsiccata: Surla, Alt. 460 m. 8.xi.1996, 339.

5. *Dimeria ornithopoda* Trin., *Fund. Agrost.* 167, t. 14. 1820; Lakshminarasimhan in *Sharma et al. Fl. Maharashtra Monocot.* 468. 1996. Found in marshy areas. Exsiccata: Keri, 16.x.1996, 231.

6. *Eragrostis gangetica* (Roxb.) Steud. Syn. Pl. Glum. 1: 266. 1854; Lakshminarasimhan in Sharma *et al.* Fl. Maharashtra Monocot. 483. 1996. Found growing in marshy areas, especially paddy fields. Exsiccata: Keri, 16.x.1996, 220.
7. *Eriochloa procera* (Retz.) C.E. Hubb. in Kew Bull. 1930: 256. 1930; Lakshminarasimhan in Sharma *et al.* Fl. Maharashtra Monocot. 494. 1996. Found in brackish water. Exsiccata: Courtalim, 14.xi.1996, 385.
8. *Garnotia arborum* Stapf ex T. Cooke, Fl. Pres. Bombay 2: 1013. 1908 (3: 534. 1967, repr. ed.); Lakshminarasimhan in Sharma *et al.* Fl. Maharashtra Monocot. 497. 1996. On black boulders. Exsiccata: Molem-Almode road, Alt. 400 m, 28.ix.1996, 204.
9. *Isachne elegans* Dalz. in Dalz. & Gibs., Bombay Fl. 291. 1861; Lakshminarasimhan in Sharma *et al.* Fl. Maharashtra Monocot. 509. 1996. In cultivated fields. Exsiccata: Taleigao, 30.x.1996, 277.
10. *Ischaemum dalzellii* Stapf ex Bor in Kew Bull. 1951: 448. 1952; Lakshminarasimhan in Sharma *et al.* Fl. Maharashtra Monocot. 516. 1996. Along hillsides. Exsiccata: Chorla, Alt. 400 m, 8.xi.1996, 327.
11. *Ischaemum kingii* Hook. f. Fl. Brit. India 7: 129. 1896; Lakshminarasimhan in Sharma *et al.* Fl. Maharashtra Monocot. 519. 1996. On black boulders near water falls. Exsiccata: Chorla, Alt. 350 m, 8.xi.1996, 332.
12. *Ischaemum mangaluricum* (Hack.) Stapf ex C.E.C. Fischer in Gamble, Fl. Pres. Madras 1723. 1934; Lakshminarasimhan in Sharma *et al.* Fl. Maharashtra Monocot. 519. 1996. On plateaus. Exsiccata: Goa University campus, 14.viii.1996, 22.
13. *Ischaemum timorense* Kunth, Rev. Gram. 1: 369, t. 98. 1830; Lakshminarasimhan in Sharma *et al.* Fl. Maharashtra Monocot. 527. 1996. Along the roadsides of Ghat areas. Exsiccata: Surla, 8.xi.1996, 312.
14. *Leersia hexandra* Swartz. Prodr. Veg. Ind. Occ. 21. 1788; Lakshminarasimhan in Sharma *et al.* Fl. Maharashtra Monocot. 534. 1996. In ponds and marshy areas. Exsiccata: Ciba, Old Goa, 4.i.1997, 465.
15. *Leptochloa malabarica* (L.) Veldk. Blumea 19: 64. 1971; Nowack in Rheede 4: 84. 1994. Usually in brackish waters (Kazan lands). Exsiccata: Courtalim, 14.xi.1996, 380.
16. *Mnesithea clarkei* (Hack.) Koning and Sosef in Blumea 31: 290. 1986; Lakshminarasimhan in Sharma *et al.* Fl. Maharashtra Monocot. 538. 1996. Along open hillsides. Exsiccata: Chorla, Alt. 400 m, 8.xi.1996, 331.
17. *Oryza rufipogon* Griff., Notul. 3: 5. 1851; Lakshminarasimhan in Sharma *et al.* Fl. Maharashtra Monocot. 545. 1996. Puddles on plateaux. Exsiccata: Lolium plateau, 24.viii.1996, 76.
18. *Panicum hippothrix* K. Schum. in Engl., Pflanzenw. Ost.-Afr. c. 103. 1895; Lakshminarasimhan in Sharma *et al.* Fl. Maharashtra Monocot. 548. 1996. In marshy, cultivated fields. Exsiccata: Taleigao, 13.ix.1996, 156.
19. *Panicum walense* Mez. in Bot. Jahrb. 34: 146. 1904; Lakshminarasimhan in Sharma *et al.* FL. MAHARASHTRA MONOCOT. 555. 1996. In cultivated fields. Exsiccata: Keri, 16.x.1996, 244.
20. *Paspalum canarae* (Steud.) Veldk. var. *fimbriatum* (Bor) Veldk. in Blumea 21: 72. 1973; Lakshminarasimhan in Sharma *et al.* Fl. Maharashtra Monocot. 558. 1996. An undergrowth of forests. Exsiccata: Surla, 8.xi.1996, 306.
21. *Sacciolepis indica* (L.) A. Chase in Proc. Biol. Soc. Wash. 21: 8. 1908; Lakshminarasimhan in Sharma *et al.* Fl. Maharashtra Monocot. 584. 1996. Common in ponds and marshy areas. Exsiccata: Carambolim lake, 2.xii.1996, 443.
22. *Setaria pumila* (Poir.) Roem. & Schult., Syst. Veg. 2: 891. 1817; Lakshminarasimhan in Sharma *et al.* Fl. Maharashtra Monocot. 595. 1996. On open lateritic plateaux. Exsiccata: Verna plateau, 17.viii.1996, 42.
23. *Spodiopogon rhizophorus* (Steud.) Pilger in Engl. and Prantl, Pflanzenf. Aufl.

MISCELLANEOUS NOTES

2. 14e: 119. 1940; Lakshminarasimhan in Sharma *et al.* Fl. Maharashtra Monocot. 608. 1996. Open slopes of hills. Exsiccata: Chorla, Alt. 400 m, 8.xi.1996, 328.

24. *Sporobolus virginicus* (L.) Kunth. Rev. Gram. 1: 67. 1929; Lakshminarasimhan in Sharma *et al.* Fl. Maharashtra Monocot. 615. 1996. Along sandy beaches. Exsiccata: Miramar beach, 31.viii.1996, 109.

ACKNOWLEDGEMENTS

We thank the Goa State Council for

Science and Technology for financial assistance and the authorities of BLAT, BSI and MH for permission to consult the specimens. We also thank Dr. S.R. Yadav, Department of Botany, Shivaji University for help.

December 24, 1997

S. RAJKUMAR
VAISHALI C. JOSHI
M.K. JANARTHANAM
*Department of Botany,
Goa University,
Goa-403 206.*

REFERENCES

DALGADO, D.G. (1898): Flora de Goa e Savantwadi. Lisbon.
KULKARNI, R.A. & M.K. JANARTHANAM (1995): Additions to the Scrophulariaceae of Goa. *J. Bombay nat. Hist. Soc.* 92(3): 440-441.

RAO, R.S. (1985, 1986): Flora of Goa, Diu, Daman, Dadra & Nagarhaveli. 2 Vols. Botanical Survey of India.
VARTAK, V.D. (1966): Enumeration of Plants of Gomantak, India. Pune.

